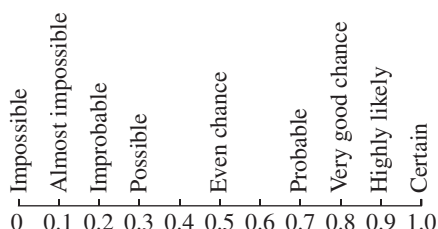




SKILLSHEET 14.4

Probability scale II

The likelihood of everyday events can be described using chance words. The most commonly used words are shown on the probability scale below.



WORKED EXAMPLE

Consider the given events A, B and C and assign a decimal to represent the estimated probability. Order them from least likely to most likely.

A — A card drawn from a standard deck of playing cards is black.

B — Next year March will precede February.

C — There will be a sunset tomorrow (even if we don't see it).

THINK

- 1 First we need to describe the likelihood of each event using chance words. Start from event A. All cards in a standard deck are either black or red (in equal amounts). So there is an even chance of taking a red or a black card. Refer to the probability scale to assign a probability.
- 2 Now consider event B. Since March follows February, it is impossible for it to precede February.
- 3 Consider the last event. There is no doubt that there will be a sunset tomorrow. In other words we are certain that this event will happen.
- 4 Arrange the events in order, from least likely to most likely, using the probability scale above as a reference.

WRITE

Event A — even chance
Estimated probability = 0.5

Event B — impossible
Estimated probability = 0

Event C — certain
Estimated probability = 1

Events in order from least likely to most likely are:
B, A, C.

Try these

Consider the given events A, B and C and assign a decimal to represent the estimated probability. Order them from least likely to most likely.

1 A — This year April will follow May.

B — A card drawn from a standard deck of playing cards will be red.

C — A card drawn from a standard deck of playing cards will be an ace.

Events in order from least likely to most likely are:

2 A — You roll a fair six-sided die and an odd number appears uppermost.

B — A card drawn from a standard deck of playing cards will be a number card.

C — A card drawn from a standard deck of playing cards will be an ace.

Events in order from least likely to most likely are:

3 A — You roll a fair six-sided die and a number less than 7 appears uppermost.

B — As you approach the next traffic lights, they will be green.

C — A blue marble will be drawn from a bag containing 6 blue and 2 white marbles.

Events in order from least likely to most likely are:

4 A — Next summer in Melbourne there will be at least 3 consecutive days with the temperature above 30 degrees.

B — A number on a card drawn from five cards numbered 1, 2, 3, 4 and 5 will be even.

C — Next year in Sydney there will be exactly 28 rainy days in July.

Events in order from least likely to most likely are:

5 A — During the next term you will have at least one science test.

B — A card drawn from a standard deck of playing cards will be the queen of hearts.

C — A fair coin when tossed will show heads.

Events in order from least likely to most likely are:

6 A — You roll two fair 6-sided dice and the sum of the numbers that appear uppermost is 12.

B — A card drawn from a standard deck of playing cards will be a club.

C — If you toss a coin 20 times there will be at least 4 Heads.

Events in order from least likely to most likely are:

7 A — Next year at school you will study English.

B — Tomorrow will be sunny.

C — There will be only white cars in a supermarket car-park.

Events in order from least likely to most likely are:

SKILLSHEET — ANSWERS

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Probability scale II

- 1 A: 0, B: 0.25, C: 0.01; A, C, B
- 2 A: 0.5, B: 0.7, C: 0.1; C, A, B
- 3 A: 1, B: 0.5, C: 0.75; B, C, A
- 4 A: 0.9, B: 0.4, C: 0.1; C, B, A
- 5 A: 0.9, B: 0.02, C: 0.5; B, C, A
- 6 A: 0.03, B: 0.25, C: 0.9; A, B, C
- 7 A: 0.9, B: 0.7, C: 0; C, B, A